

**REMARKS****Introductory Comments:**

Claims 1-26 are pending in the application, claims 4 and 16 are cancelled. The Applicant respectfully requests reconsideration of claims 1-3, 5-15, and 17-26.

**In Response To The Claim Objections:**

Claims 7, 8, 12, 14-18, 19, 20, and 24 are objected to because of various informalities. In response to this objection Applicant has amended the claims in accordance with the Examiners suggestions. Applicant will formalize these changes upon the Examiner's approval.

**In Response To The Claim Rejections:**

Claims 1-3, 6-15 and 18-26 is rejected under 35 U.S.C. 102(e) as being anticipated by Fuchs et al. (6,141,770). Claims 4 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuchs et al. in view of Hanawa et al. (4,745,302). Claims 4 and 16 are cancelled; and claims 1, 13, and 25 are amended to include the limitations thereof. Claims 5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuchs et al. in view of Golshan (6,671,841).

Claims 1-3, 6-15 and 18-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Fuchs. According to the Office Action, as in claims 1-3, 6-15 and 18-26, Fuchs discloses a fault tolerant processing circuit including substantially similar circuits and logic. In response to this rejection, Applicant respectfully amends claims 1, 13, and 25 to include:

wherein bit selection is generated as a function of whether a first one of said plurality of outputs is synchronous or asynchronous

and claims 13 and 25 are amended to include:

whether said first one of said plurality of outputs is always valid  
or valid based on a state of a second one of said plurality of  
outputs

from claim 4 and page 16, paragraph [0040]. No new matter has been added. The Office Action recognizes that Fuchs does not disclose: wherein said synchronizing circuit further comprises asynchronous signals. Therefore because each and every element of the claims is not disclosed or suggested in Fuchs, claims 1, 13, and 25 are believed to be patentable. Claims 2-3, 5-12, 15-24, and 26 depend from claims 1, 13, and 25 and are believed to be patentable for at least the aforementioned reason.

Claims 4 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuchs et al. in view of Hanawa et al. (4,745,302). Although claims 4 and 16 are cancelled, the limitations of claims 4 and 16 are added to claims 1, 13, and 25 and therefore, this rejection will be discussed regarding claims 1, 13, and 25. According to the Office Action, Fuchs discloses the fault tolerant processing architecture limitations of claims 1, 13, and 25; and Hanawa discloses an asynchronous signal synchronizing circuit (from the original claims 4 and 16) as in the amended claims 1, 13, and 25.

The Applicant submits that it would not have been obvious to combine the Fuchs and Hanawa references to arrive at the present invention. The Fuchs reference includes a typical fault tolerant computer system. More importantly, however, Fuchs does not disclose or teach error detection through selecting bits as a function of whether the plurality of processor group outputs is synchronous or asynchronous, as does the Applicant in the amended claims 1, 13, and 25. Further, Fuchs does not disclose or suggest how error detection should operate with synchronous and asynchronous outputs as claimed by Applicant.

The Hanawa system includes an asynchronous signal synchronizing circuit. More importantly, however, Hanawa does not disclose or suggest applications of the circuit to fault or error detection, and, further, Hanawa does not disclose or suggest bit selection based on synchronous or asynchronous signals as does the Applicant. Hanawa instead includes a circuit designed specifically for synchronizing asynchronous signals. (Summary of the Invention.)

Applicant's system includes bit selection generated as a function of whether each of the outputs is synchronous or asynchronous. In this way, synchronous and asynchronous signals may, unlike the signals generated in Fuchs or Hanawa, both be used for determining system errors or faults.

Each and every element of the amended claims 1, 13, and 25 is not disclosed or suggested in either Fuchs or Hanawa. In other words neither Fuchs nor Hanawa include synchronous and asynchronous signals used for fault detection. Therefore, because each and every item of claims 1, 13, and 25 are not included in the aforementioned references, the claims are non-obvious.

As was mentioned, it would not be obvious to combine the Fuchs and Hanawa references to arrive at the present invention. Neither reference is directed to the Applicant's goals of fault detection using synchronous and asynchronous signals for fault detection. Fuchs is directed to fault compensation through disabling CPUs and initiating a re-synchronization process that recovers the disabled CPU. (Column 7, Lines 32-42.) Fuchs is not directed to bit selection for fault detection using synchronous and asynchronous signals as is the Applicant. Unlike Fuchs, Hanawa is directed to synchronizing asynchronous circuits. (See Summary of The Invention.) Hanawa is not directed to fault detection or processing synchronous and

asynchronous signals as is the Applicant. Fuchs and Hanawa are therefore non-analogous arts with no motivation or teaching for combination.

"Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination." ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1672, 1577, 221 USPQ 929, 933 (Fed.Cir. 1984). Even if all the elements of Applicant's invention are disclosed in various prior art references, the claimed invention taken as a whole cannot be said to be obvious without some reason given in the prior art why one of ordinary skill would have been prompted to combine the teachings of the references to arrive at the claimed invention.

In other words, "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." In re Fritch, 972 F.2d 1260, 1266, 12 USPQ2d 1780, 1783-84 (Fed.Cir. 1992) citing In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed.Cir. 1984).

Applicant therefore submits that the combination of Fuchs and Hanawa would not render obvious Applicant's claimed system because Fuchs or Hanawa, either alone or in combination, do not disclose or suggest synchronous and asynchronous signal processing. Therefore, because no teaching or suggestion is found in either of the references for the limitations in claims 1, 13, and 23, Applicant respectfully requests the Examiner to reconsider this rejection. Claims 2-3, 5-12, 15-24, and 26 depend from claims 1, 13, and 25 and are believed to be patentable for at least the aforementioned reason.

Claims 13 and 25 are further amended to include "whether said first one of said plurality of outputs is always valid or valid based on a state of a second one of said plurality of outputs," which is neither disclosed or suggested by Fuchs or Hanawa. Fuchs includes a voting structure for comparing processor outputs and is not designed to process both valid signals and valid by comparison signals. Hanawa does not disclose or suggest the aforementioned logic and is directed solely to synchronizing asynchronous circuits. Therefore because each and every element of claims 13 and 25 is not taught in Fuchs or Hanawa, claims 13 and 25 are believed to be allowable for this additional reason.

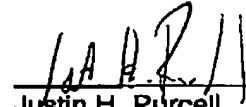
As mentioned, claims 5 and 17 are also rejected under 35 U.S.C. 103(a) as being unpatentable over Fuchs et al. in view of Golshan. As was discussed above, claims 5 and 17 depend from claims 1 and 13 respectively and are believed to be allowable for at least the aforementioned reasons.

In view of the aforementioned remarks, it is respectfully submitted that all pending claims are in a condition for allowance. A notice of allowability is therefore respectfully solicited. Please charge any fees required in the filing of this amendment to Deposit Account 50-0476.

The Examiner is invited to contact the undersigned at (248) 223-9500 if any unresolved matters remain.

Respectfully Submitted,

**ARTZ & ARTZ P.C.**

  
Justin H. Purcell  
Reg. No. 53,493  
Artz & Artz, PC  
28333 Telegraph Road, Suite 250  
Southfield, MI 48034  
(248) 223-9500

Dated: October 28, 2004